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Amarantus Subsidiary MANF Therapeutics Announces Positive Independent Peer-Reviewed Pre-Clinical Data for MANF in Parkinson's Disease

Data show in-animal increases in free-release dopamine and dopamine turnover

SAN FRANCISCO, Jan. 29, 2018 (GLOBE NEWSWIRE) -- **Via OTC PR Wire** - [Amarantus Bioscience Holdings, Inc.](#) (OTCPK:AMBS), a US-based biotechnology holding company with wholly-owned subsidiaries developing first-in-class orphan neurologic, regenerative medicine and ophthalmic therapies, today disclosed that its wholly-owned subsidiary MANF Therapeutics announced the publication of an independent peer-reviewed article entitled "*Mesencephalic Astrocyte-Derived Neurotrophic Factor (MANF) Elevates Stimulus-Evoked Release of Dopamine in Freely-Moving Rats*" in the scientific journal *Molecular Neurobiology*. MANF is in pre-clinical development for the treatment of orphan ophthalmological disorders, Glaucoma and Parkinson's disease.

The published data show that 1 week after MANF treatment, there is an increased release of dopamine, as well as increased dopamine turnover, in the rat striatum in response to stimulus, as measured by brain microdialysis. These data are significant because they propose a unique mechanism of action for MANF in Parkinson's disease that provides a rationale for potentially improved treatment efficacy with MANF versus other neurotrophic factors in-development. Currently-approved drugs for Parkinson's disease primarily target dopamine replacement as their mechanism of action. Disease-modifying drugs, such as neurotrophic factors, primarily target the rescue of the dopaminergic neurons that degenerate in Parkinson's disease. A treatment that could both rescue dopaminergic neurons and increase dopamine release could be a significant improvement over other approaches in treating Parkinson's disease.

A link to the abstract is available here:

<https://link.springer.com/article/10.1007%2Fs12035-018-0872-8>

About Amaranthus Bioscience Holdings, Inc.

Amarantus Bioscience Holdings ([AMBS](#)) is a biotechnology company developing treatments and diagnostics for diseases in the areas of neurology, regenerative medicine and orphan diseases through its subsidiaries. AMBS' wholly-owned subsidiary **Elto Pharma, Inc.** has development rights to eltoprazine, a Phase 2b-ready small molecule

indicated for Parkinson's disease levodopa-induced dyskinesia, Alzheimer's aggression and adult ADHD. AMBS acquired the rights to the Engineered Skin Substitute program (ESS), a regenerative medicine-based approach for treating severe burns with full-thickness autologous skin grown in tissue culture that is being pursued by AMBS' wholly-owned subsidiary **Cutanogen Corporation**. AMBS' wholly-owned subsidiary MANF Therapeutics, Inc. owns key intellectual property rights and licenses from a number of prominent universities related to the development of the therapeutic protein known as mesencephalic astrocyte-derived neurotrophic factor (MANF). **MANF Therapeutics, Inc.** is developing MANF-based products as treatments for brain and ophthalmic disorders. MANF was discovered by the Company's Chief Scientific Officer John Commissiong, PhD. Dr. Commissiong discovered MANF from AMBS' proprietary discovery engine PhenoGuard. AMBS also owns approximately 80 million shares of Avant Diagnostics, Inc. via the sale of its wholly-owned subsidiary Amarantus Diagnostics, Inc. that occurred in May 2016.

For further information please visit www.Amarantus.com, or connect with the Amarantus on [Facebook](#), [LinkedIn](#), [Twitter](#) and [Google+](#).

About MANF Therapeutics, Inc.

MANF (mesencephalic-astrocyte-derived neurotrophic factor) is believed to have broad potential because it is a naturally-occurring protein produced by the body to reduce/prevent apoptosis (cell death) in response to injury or disease, via the unfolded protein response. By administering exogenously produced MANF the body, Amarantus is seeking to use a regenerative medicine approach to assist the body with higher quantities of MANF when needed. Amarantus is the front-runner and primary holder of intellectual property around MANF, and is initially focusing on the development of MANF-based protein therapeutics.

In April 2017, Amarantus incorporated the wholly-owned subsidiary MANF Therapeutics, Inc. to focus on the preclinical and clinical development of MANF. MANF's lead indication is retinitis pigmentosa, and additional indications including Parkinson's disease, diabetes and Wolfram's syndrome are envisioned. Further applications for MANF may include Alzheimer's disease, traumatic brain injury, myocardial infarction, antibiotic-induced ototoxicity and certain other orphan diseases.

Forward-Looking Statements

Certain statements, other than purely historical information, including estimates, projections, statements relating to our business plans, objectives, and expected operating results, and the assumptions upon which those statements are based, are forward-looking statements. These forward-looking statements generally are identified by the words "believes," "project," "expects," "anticipates," "estimates," "intends," "strategy," "plan," "may," "will," "would," "will be," "will continue," "will likely result," and similar expressions. Forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties which may cause actual results to differ materially from the forward-looking statements. Our ability to predict results or the actual effect of future plans or strategies is inherently uncertain. Factors which could have a material adverse effect on our operations and future prospects on a consolidated basis include, but are not limited to: changes in economic conditions, legislative/regulatory changes, availability of

capital, interest rates, competition, and generally accepted accounting principles. These risks and uncertainties should also be considered in evaluating forward-looking statements and undue reliance should not be placed on such statements.

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